# PRX500

PRX512M

PRX515

PRX535

PRX525

PRX518S

## User's Guide

JBL PROFESSIONAL

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# IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. If Service Instruction in Owner's Manual: "CAUTION - THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO."
16. To completely disconnect this apparatus from the ac mains, disconnect the power supply cord plug from the ac receptacle.
17. "WARNING – TO REDUCE THE RISK OF FIRE OR ELECTRIC – SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE."
18. Do not expose this equipment to dripping or dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
19. The mains plug of the power supply cord shall remain readily operable.

## Care And Cleaning

PRX500 series systems may be cleaned with a dry cloth. Do not get moisture into any of the openings in the system. Ensure that the system is unplugged from the AC outlet before cleaning. In the event the DuraFlex finish is damaged a touch up kit can be obtained from JBL Professional (part number 363972-001).

THIS APPARATUS CONTAINS POTENTIALLY LETHAL VOLTAGES. TO PREVENT ELECTRIC SHOCK OR HAZARD, DO NOT REMOVE CHASSIS, INPUT MODULE OR AC INPUT COVERS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

# PRECAUTIONS

The PRX500 series speakers covered by this manual are not intended for fixed installation and high moisture environments. Moisture can damage the speaker cone and surround and cause corrosion of electrical contacts and metal parts. Avoid exposing the speakers to direct moisture. Keep speakers out of extended or intense direct sunlight. The driver suspension will prematurely dry out and finished surfaces may be degraded by long-term exposure to intense ultra-violet (UV) light. PRX500 series speakers can generate considerable energy. When placed on a slippery surface such as polished wood or linoleum, the speaker may move due to its acoustical energy output. Precautions should be taken to assure that the speaker does not fall off a stage or table on which it is placed.

## Stand Mounting Safety Precautions

Some PRX500 series models include a 36 mm receptacle cup to allow mounting on tripod stands or on a pole over subwoofers. When using stands or poles, be sure to observe the following precautions:

- Check the stand or pole specification to be certain the device is designed to support the weight of the speaker. Observe all safety precautions specified by the manufacturer.
- Always verify that the stand (or subwoofer/pole) is placed on a flat, level and stable surface and be sure to fully extend the legs of tripod type stands. Position the stand so that the legs do not present a trip hazard.
- Route cables so that performers, production crew, and audience will not trip and topple the speakers over.
- Inspect the stand (or pole and associated hardware)before each use and do not use equipment with worn, damaged or missing parts.
- Do not attempt to place more than one PRX500 series speaker on a stand or pole.
- Always be cautious in windy, outdoor conditions. It may be necessary to place additional weight (i.e. sandbags) on the base of the stand to improve stability. Avoid attaching banners or similar items to any part of a speaker system. Such attachments could act as a sail and topple the system.
- Unless you are confident that you can handle the weight of the speaker, ask another person to help you get it onto the tripod stand or pole.

## Hearing Damage, Prolonged Exposure To Excessive SPL

PRX500 series loudspeakers are easily capable of generating sound pressure levels (SPL) sufficient to cause permanent hearing damage to performers, production crew and audience members. Caution should be taken to avoid prolonged exposure to SPL in excess of 90 dB.

# WATCH FOR THESE SYMBOLS!

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
WARNING - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated." "Dangerous Voltage" within the products enclosure that may be of sufficient magnitude to consitute a risk of electric shock to persons.

The exclamation point within an equi-lateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.

# PRX500 Series speakers Declaration of Conformity

**Safety And EMC Compliance Specifications**

EN 55103-1:1997 Electromagnetic Compatibility - Product Family Standard for Audio, Video, Audio-Visual and Entertainment Lighting Control Apparatus for Professional Use, Part 1: Emissions

EN 55103-1:1997 Magnetic Field Emissions-Annex A @ 10 cm and 20 cm

EN 55022:2003 Limits and Methods of Measurement of Radio Disturbance Characteristics of ITE: Radiated, Class B Limits; Conducted, Class A

EN 55103-2:1997 Electromagnetic Compatibility - Product Family Standard for Audio, Video, Audio-Visual and Entertainment Lighting Control Apparatus for Professional Use, Part 2: Immunity

EN 61000-4-2: A2:2001 Electrostatic Discharge Immunity (Environment E2-criteria B, 4 kV Contact, 8 kV Air discharge)

EN 61000-4-3:2003 Radiated, Radio-frequency, Electromagnetic Immunity (Environment E2, criteria A)

EN61000-4-4:2005 Electrical Fast Transient/Burst Immunity (criteria B)

EN 61000-4-5:2001 Surge Immunity (criteria B)

EN 61000-4-6:1996 Immunity to Conducted Disturbances Induced by Radio-Frequency Fields (criteria A)

EN 61000-4-11:2004 Voltage Dips, Short Interruptions and Voltage Variation

UL 6500 2nd Edition 1999 Audio/Video and Musical Instruments Apparatus for Household, Commercial, and Similar General Use

CAN/CSA-E60065-00 Audio, video and similar apparatus - Safety requirements

## CSA Compliance Notice

CSA Certification Applies to Amplifier Module Only
CSA Certified to operate only at 120V~ in Canada

## FCC Compliance Notice

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to collect the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and reliever.
- Connect the equipment into an outlet on a circuit different from that to which the reliever is connected.
- Consult the dealer or an experienced radio / TV technician for help.

# The PRX500 Series power amplifier

## AC Power Requirements

Standard PRX500 series speaker systems are equipped with a multi-channe Crown Class-D power amplifier and loudspeaker specific DSP electronics and require appropriate AC power. Before plugging a PRX500 speaker into an outlet ensure that it is able to provide the appropriate AC power as set on the speaker.

A robust AC supply is necessary for maximum performance. If the supply is too weak the bass performance may be affected and if it sags (drops) too much the system may self-mute to protect itself. As soon as the appropriate AC supply is restored it will continue to operate. Plugging multiple systems into the same outlet and long extension cord runs may affect the AC supply to the systems.

## CAUTION

In compliance with safety agency criteria and proper system operation, it is critical that the system installer observe all electrical safety practices at all times and provide proper earth grounding for all AC Power connections.

## Powering Up

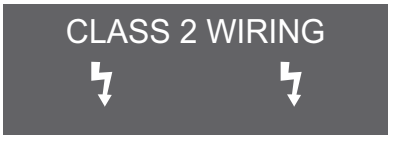
The main power switch is located on the input panel on the back of the enclosure. Always ensure that the speaker system is the last thing you power up, and the first thing to turn off when operating your complete PA system. If speaker systems are daisy chained together always turn off the last system in the chain first. Power “on” is indicated by the illumination of the logo on the front of the enclosure.

## Changing Voltage

Your PRX500 series speaker will typically be set at the factory to accommodate the power mains voltage in your area. Before you set up your PRX500 series speaker for the first time it is a good idea to verify that the setting of the selector is appropriate for the power in your area. In the event that you do need to change the voltage:

- Make sure that the speaker is powered off and the AC is disconnected from the speaker.
- Directly above the male IEC connector on the speaker is a voltage selector. Just slide the switch to the appropriate setting.
- Set the voltage selector switch to the 115V for (100-120V~) or 230V for (220-240V~) range setting as required for your area.
- After having reconfirmed that the correct voltage is selected, reconnect the AC (IEC connector) and power the unit up.

DO NOT UNDER ANY CIRCUMSTANCES OPERATE THE UNIT WITH THE WRONG VOLTAGE SELECTED. DOING SO MAY RESULT IN SERIOUS DAMAGE TO YOUR SPEAKER SYSTEM WHICH WILL NOT BE COVERED BY WARRANTY.

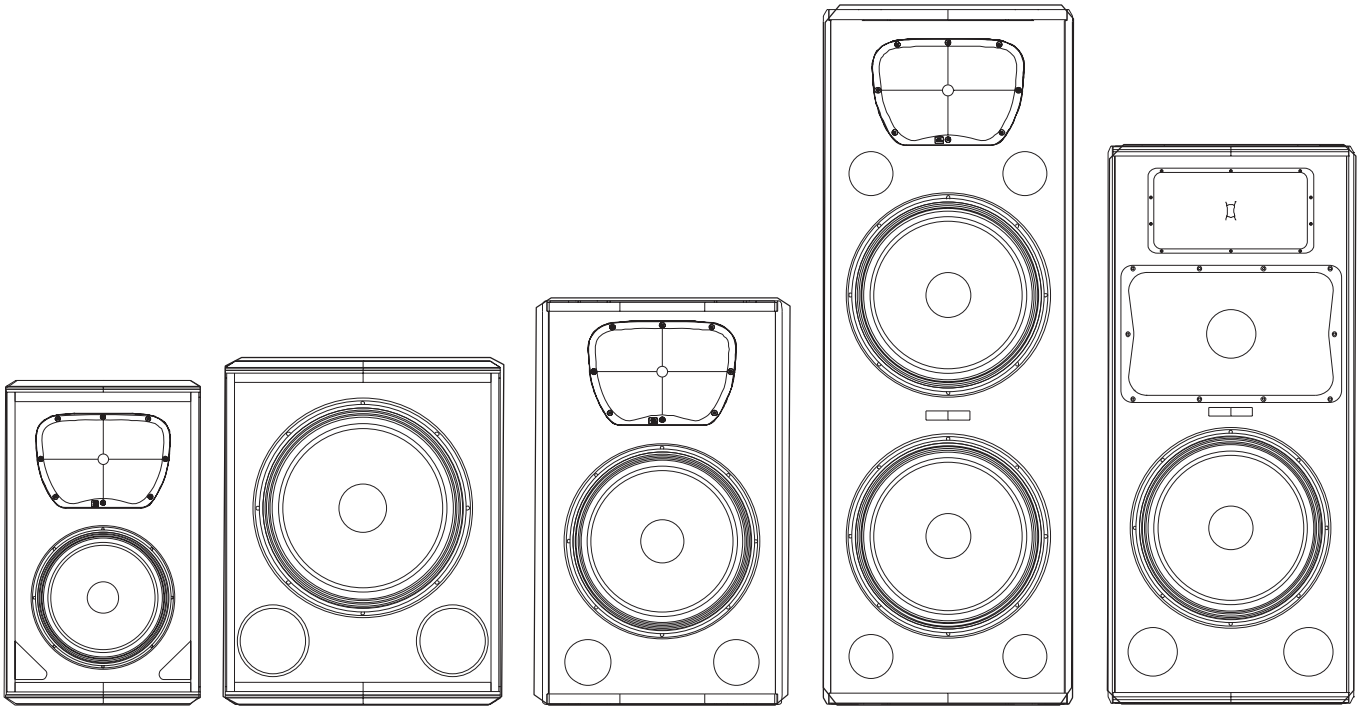



Class 2 output wiring.

## Operating Temperature

The design of the Crown amplifier is such that it is very energy efficient and as a result does not get really hot. In the rare event that it does get too hot it will automatically shut down to protect itself. When its temperature has returned to within its operating range it will turn back on. A Condition under which this may occur is when the system is operated in very high ambient temperatures and the heat sink on the rear of the enclosure is in direct sunlight. Always ensure adequate cooling and appropriate shade.

# Introduction to the PRX500 series



PRX512M PRX518S PRX515 PRX525 PRX535

Thank you for choosing the JBL PRX500 series self-powered PA loudspeakers. There are five models in the series, four full-range systems and one subwoofer. All are powered by integrated digital power amplifiers developed by Crown, the most trusted name in professional sound reinforcement power amplification. In addition to Crown power amplifiers, the systems are equipped with sophisticated DSP for EQ, crossover, system control and protection. Engineered and manufactured by JBL Professional with precision and care, your PRX500 series speaker will provide you with many years of flawless performance. To ensure you are always receiving optimum performance we encourage you to review this user's guide completely before hooking up your new system.

In addition to the high performance light weight Crown amplifier, PRX500 series utilizes the latest in JBL transducer technology. New 400 watt neodymium Differential Drive® transducers not only provide high sound pressure levels with minimum distortion and power compression, but they are also incredibly light. Combined together in highly engineered enclosures, PRX500 series speaker systems deliver the highest performance to weight ratio in the class – portable PA that's actually portable.

All PRX500 systems are built road tough; covered with JBL's DuraFlex™, one of the most durable finishes ever created for a speaker and protected by heavy-duty foam backed steel grilles. The foam backing not only looks excellent but it stops direct liquid intrusion and it does not affect the acoustics. The larger systems have an extra layer of protection from the road in the form of tough polypropylene end-caps. These are independent of the acoustic enclosure so in the event of really tough knocks the speaker's performance will not suffer.

## Single Box On A Pole Coverage

The PRX512M features a dual angle pole socket this provides flexibility in aiming the speaker. As a guide line, the speaker should be positioned so that the audience cannot see the top or bottom panels of the speaker. The PRX515 and PRX535 also feature a pole mount of the 'single' socket variety. When using stands or poles, be sure to observe the precautions as stated in the "Precautions" section of the manual.

# SYSTEM SPECIFICATIONS

## PRX512M

| | |
|---|---|
| System Type: | Self powered 12", two-way, bass-reflex |
| Frequency Range (-10 dB): | 46Hz - 20kHz (EQ in main position)<br>60Hz - 20kHz (EQ in monitor position) |
| Frequency Response (±3 dB): | 76Hz - 20kHz (EQ in main position)<br>90Hz - 20kHz (EQ in monitor position) |
| Coverage Pattern: | 70° x 70° nominal |
| Directivity Index (DI): | 10.2 dB |
| Directivity Factor (Q): | 10.8 |
| Crossover Modes: | DSP controlled 48dB filter slope |
| Crossover Frequency: | 1.6kHz |
| System Power Rating: | 500 W continuous, 1000W peak |
| LF Power amp: | Class-D, 400 Watt (continuous) at driver impedance |
| HF Power amp: | Class-D, 100 Watt (continuous) at driver impedance |
| Distortion: | Less than 0.1% at rated power |
| Maximum Peak Output: | 133dB SPL[1] |
| Signal indicators: | Overload: Red LED indicates input overload condition<br>Signal: Green LED indicates signal present |
| Input sensitivity: | Mic position: -25 dBu to 0 dBu<br>Line position: +28 dBu to +10 dBu |
| Input Impedance: | 64 K Ohms (balanced), 32 K Ohms (unbalanced) |
| EQ: | Presets for use in Main and Monitor position |
| LF Driver: | 1 x JBL 262F 380 mm (12 in) Differential Drive® woofer |
| HF Driver: | 1 x JBL 2408H 37.5 mm (1.5 in) annular polymer diaphragm, neodymium compression driver |
| Enclosure: | Trapezoidal, 18 mm, plywood |
| Suspension / Mounting: | Dual 36mm pole socket |
| Transport: | Integrated handle with backing cup |
| Finish: | Anthracite DuraFlex™ finish |
| Grille: | Powder coated, Anthracite, 18 gauge perforated steel with acoustical transparent black foam backing. |
| Input Connectors: | Balanced XLR / 1/4 inch combo jack with XLR loop through, |
| Dimensions (H x W x D): | 650 mm x 380 mm x 350 mm<br>(25.5 in x 15 in x 14 in) |
| Net Weight: | 18 kg (40 lb.) |

[1] Maximum Peak output measured with IEC pink noise at 1 meter in front of speaker baffle under free space conditions. Measurement instrument set to peak hold. Speaker muted and released at full power, recording maximum peak level.

## PRX515

| | |
|---|---|
| System Type: | Self powered 15", two-way, bass-reflex |
| Frequency Range (-10 dB): | 45Hz - 20kHz (EQ in flat position) |
| Frequency Response (±3 dB): | 52Hz - 20kHz (EQ in flat position) |
| Coverage Pattern: | 70° x 70° nominal |
| Directivity Index (DI): | 10.3 dB |
| Directivity Factor (Q): | 10.8 |
| Crossover Modes: | DSP controlled 48dB filter slope |
| Crossover Frequency: | 1.6kHz |
| System Power Rating: | 500 W continuous, 1000W peak |
| LF Power amp: | Class-D, 400 Watt (continuous) at driver impedance |
| HF Power amp: | Class-D, 100 Watt (continuous) at driver impedance |
| Distortion: | Less than 0.1% at rated power |
| Maximum Peak Output: | 133dB SPL[1] |
| Signal indicators: | Overload: Red LED indicates input overload condition<br>Signal: Green LED indicates signal presents |
| Input sensitivity: | Mic position: -25 dBu to 0 dBu<br>Line position: +28 dBu to +10 dBu |
| Input Impedance: | 64 K Ohms (balanced), 32 K Ohms (unbalanced) |
| EQ: | Presets for Main and Monitor position |
| LF Driver: | 1 x JBL 265F 380 mm (15 in) Differential Drive® woofer |
| HF Driver: | 1 x JBL 2408H 37.5 mm (1.5 in) annular polymer diaphragm, neodymium compression driver |
| Enclosure: | Trapezoidal, 18 mm, plywood with polypropylene end caps |
| Suspension / Mounting: | Dual 36mm pole socket |
| Transport: | 2 x die-cast handles with backing cup |
| Finish: | Anthracite DuraFlex™ finish |
| Grille: | Powder coated, Anthracite, 18 gauge perforated steel with acoustical transparent black foam backing. |
| Input Connectors: | Balanced XLR / 1/4 inch combo jack with XLR loop through, |
| Dimensions (H x W x D): | 815 mm x 440 mm x 465 mm<br>(32 in x 17.25 in x 18.25 in) |
| Net Weight: | 26 kg (57 lb.) |

[1] Maximum Peak output measured with IEC pink noise at 1 meter in front of speaker baffle under free space conditions. Measurement instrument set to peak hold. Speaker muted and released at full power, recording maximum peak level.

## PRX525

| | |
|---|---|
| System Type: | Self powered dual 15", two-way, bass-reflex |
| Frequency Range (-10 dB): | 40Hz - 20kHz (EQ in flat position) |
| Frequency Response (±3 dB): | 52Hz - 20kHz (EQ in flat position) |
| Coverage Pattern: | 70° x 70° nominal |
| Directivity Index (DI): | 10.3 dB |
| Directivity Factor (Q): | 10.8 |
| Crossover Modes: | DSP controlled 48dB filter slope |
| Crossover Frequency: | 1.6kHz |
| System Power Rating | 650 W continuous, 1300W peak |
| LF Power amp: | Class-D, 275 Watt (continuous) at driver impedance |
| LF2 Power amp: | Class-D, 275 Watt (continuous) at driver impedance |
| HF Power amp: | Class-D, 100 Watt (continuous) at driver impedance |
| Distortion: | Less than 0.1% at rated power |
| Maximum Peak Output: | 135dB SPL[1] |
| Signal indicators: | Overload: Red LED indicates input overload condition<br>Signal: Green LED indicates signal presents |
| Input sensitivity: | Mic position: -25 dBu to 0 dBu<br>Line position: +28 dBu to +10 dBu |
| Input Impedance: | 64 K Ohms (balanced), 32 K Ohms (unbalanced) |
| EQ: | Presets for Flat or Boost |
| LF Driver: | 2 x JBL 265F 380 mm (15 in) Differential Drive® woofer |
| HF Driver: | 1 x JBL 2408H 37.5 mm (1.5 in) annular polymer diaphragm, neodymium compression driver |
| Enclosure: | Trapezoidal, 18 mm, plywood with polypropylene end caps |
| Transport: | 2 x die-cast handles with backing cup |
| Finish: | Anthracite DuraFlex™ finish |
| Grille: | Powder coated, Anthracite, 18 gauge perforated steel with acoustical transparent black foam backing |
| Input Connectors: | Balanced XLR / 1/4 inch combo jack with XLR loop through, |
| Dimensions (H x W x D): | 1300 mm x 440 mm x 465mm<br>(51 in x 17.25 in x 18.25 in) |
| Net Weight: | 38 kg (84 lb.) |

[1] Maximum Peak output measured with IEC pink noise at 1 meter in front of speaker baffle under free space conditions. Measurement instrument set to peak hold. Speaker muted and released at full power, recording maximum peak level.

## PRX535

| | |
|---|---|
| System Type: | Self powered 15", three-way, bass-reflex |
| Frequency Range (-10 dB): | 39Hz - 20kHz (EQ in flat position) |
| Frequency Response (±3 dB): | 46Hz - 20kHz (EQ in flat position) |
| Coverage Pattern: | 90° x 50° nominal |
| Directivity Index (DI): | 10.6 dB |
| Directivity Factor (Q): | 11.4 |
| Crossover Modes: | DSP controlled 24dB filter slope |
| Crossover Frequency: | 430 Hz, 2.6kHz |
| System Power Rating: | 650 W continuous, 1300W peak |
| LF Power amp: | Class-D, 400 Watt (continuous) at driver impedance |
| MF Power amp: | Class-D, 150 Watt (continuous) at driver impedance |
| HF Power amp: | Class-D, 100 Watt (continuous) at driver impedance |
| Distortion: | Less than 0.1% at rated power |
| Maximum Peak Output: | 134dB SPL peak[1] |
| Signal indicators: | Overload: Red LED indicates input overload condition<br>Signal: Green LED indicates signal presents |
| Input sensitivity: | Mic position: -25 dBu to 0 dBu<br>Line position: +28 dBu to +10 dBu |
| Input Impedance: | 64 K Ohms (balanced), 32 K Ohms (unbalanced) |
| EQ: | Presets for Flat or Boost |
| LF Driver: | 1 x JBL 265F, 380 mm (15 in) Differential Drive® woofer |
| MF Driver: | 1 x JBL 195H, 165 mm (6.5 in) woofer |
| HF Driver: | 1 x JBL 2408H, 37.5 mm (1.5 in) annular polymer diaphragm, neodymium compression driver |
| Enclosure: | Trapezoidal, 18 mm, plywood with polypropylene end caps |
| Suspension / Mounting: | 36mm pole socket |
| Transport: | 2 x die-cast handles with backing cup |
| Finish: | Anthracite DuraFlex™ finish |
| Grille: | Powder coated, Anthracite, 18 gauge perforated steel with acoustical transparent black foam backing. |
| Input Connectors: | Balanced XLR / 1/4 inch combo jack with XLR loop through, |
| Input Connectors: | 1070 mm x 440 mm x 465 mm<br>(42 in x 17.25 in x 18.25 in) |
| Input Connectors: | 33.5 kg (74 lb.) |

[1] Maximum Peak output measured with IEC pink noise at 1 meter in front of speaker baffle under free space conditions. Measurement instrument set to peak hold. Speaker muted and released at full power, recording maximum peak level.

## PRX518S

| | |
|---|---|
| System Type: | Self powered 18", bass-reflex |
| Frequency Range (-10 dB): | 37Hz - 140Hz |
| Frequency Response (±3 dB): | 52Hz – 110Hz |
| Crossover Modes: | DSP controlled 48dB filter slope |
| Crossover Frequency: | 110Hz |
| System Power Rating: | 500 W continuous, 1000W peak |
| LF Power amp: | Class-D, 500 Watt (continuous) at driver impedance |
| Distortion: | Less than 0.1% at rated power |
| Maximum SPL: | 129dB SPL peak[1] |
| Signal indicators: | Overload: Red LED indicates input overload condition<br>Signal: Green LED indicates signal presents |
| Input sensitivity: | -25 dBu to 0 dBu |
| Input Impedance: | 34K Ohms (balanced), 18K Ohms (unbalanced) |
| Polarity: | 0° or 180° phase shift |
| LF Driver: | 1 x JBL 2044E 460 mm (18 in) woofer |
| Enclosure: | Rectangular, 18 mm, plywood |
| Suspension / Mounting: | 36mm pole socket on top |
| Transport: | 2 x die-cast handles with backing cup |
| Finish: | Anthracite DuraFlex™ finish |
| Grille: | Powder coated, Anthracite, 18 gauge perforated steel<br>with acoustical transparent black foam backing. |
| Input Connectors: | Balanced XLR 1/4 inch combo jack with XLR loop through. (stereo) |
| Dimensions (H x W x D): | 725 mm x 535 mm x 610 mm<br>(28.5 in x 21 in x 24 in) |
| Net Weight: | 36 kg (79 lb.) |

[1] Maximum Peak output measured with IEC pink noise at 1 meter in front of speaker baffle under free space conditions. Measurement instrument set to peak hold. Speaker muted and released at full power, recording maximum peak level.

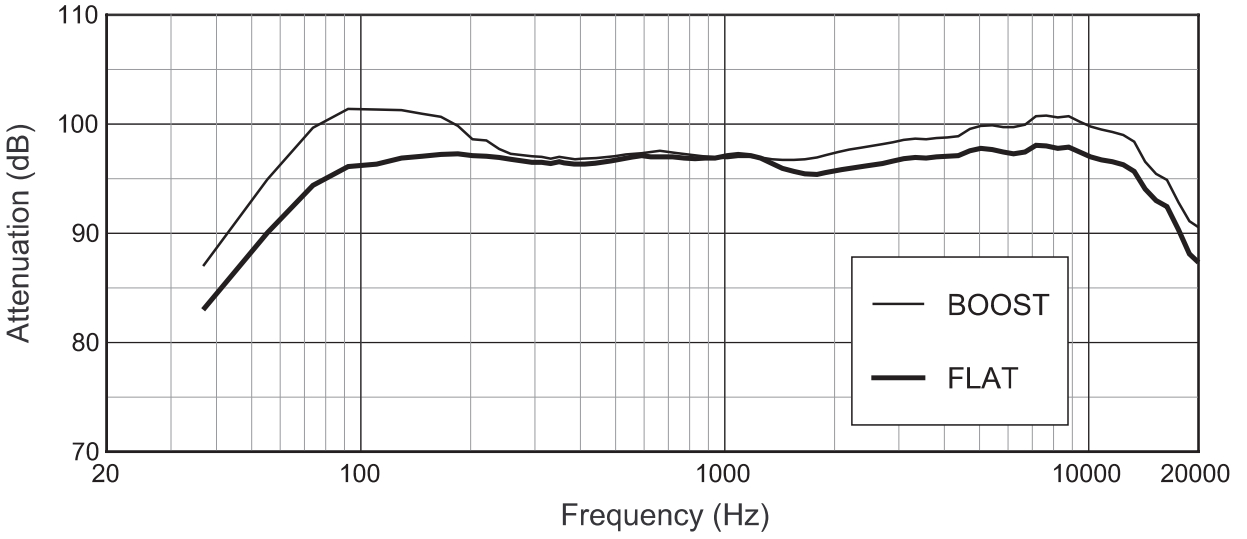
# SYSTEM SET UP - FULL RANGE MODELS

## PRX500 Amplifier Input Configuration for
## PRX512M, PRX515, PRX525 And PRX535 Full-Range Models:

## Features

1 - **EQ BOOST / FLAT:** When set in the “FLAT” position, frequency response is linear and unaltered.When “Boost” is selected, internal equalization is applied to enhance low frequency and high frequency response. “FLAT” will provide greater accuracy of reproduced music, higher speech intelligibility and maximum overall level. “BOOST” is particularly useful at lower levels to enhance pre- recorded music. The feature provides flexibility without the need to use an external equalizer. The chart (at eft) shows the effect of the “BOOST” setting.

**MAIN/MONITOR (PRX512M ONLY):** On the PRX512M: Switching between “MAIN” and “MONITOR” optimizes the system for use as either a main full-range system, or a stage monitor.




**2 - INPUT MIC / LINE:** Allows the selection of different input sensitivities to permit the connection of many different sources, with or without the use of a mixer or external microphone preamplifier. See “Setting Input Sensitivity” on page 18.

**3 - LEVEL:** Sound level adjustment. With the input in the “MIC” position the level can be adjusted over a large range. In the “LINE” position most typical applications will require that the level control is set at 12 o’clock. (More details are outlined in “Setting the Input Sensitivity” and “Setting the Gain”).

**6 - POWER SWITCH:** Turns the power on. The illuminated logo in the front of the speaker serves also as a power “on” indicator.

**7 - LINE SELECT:** Allows the user selection for different local voltage ratings.

**8 - AC LINE INPUT:** Standard IEC AC mains input connector.

## Indicators

**4 - SIGNAL:** Signal indicator. The green LED illuminates when a signal is present.

**5 - LIMIT:** Protection indicator. The red LED illuminates when the system overload protection is active.

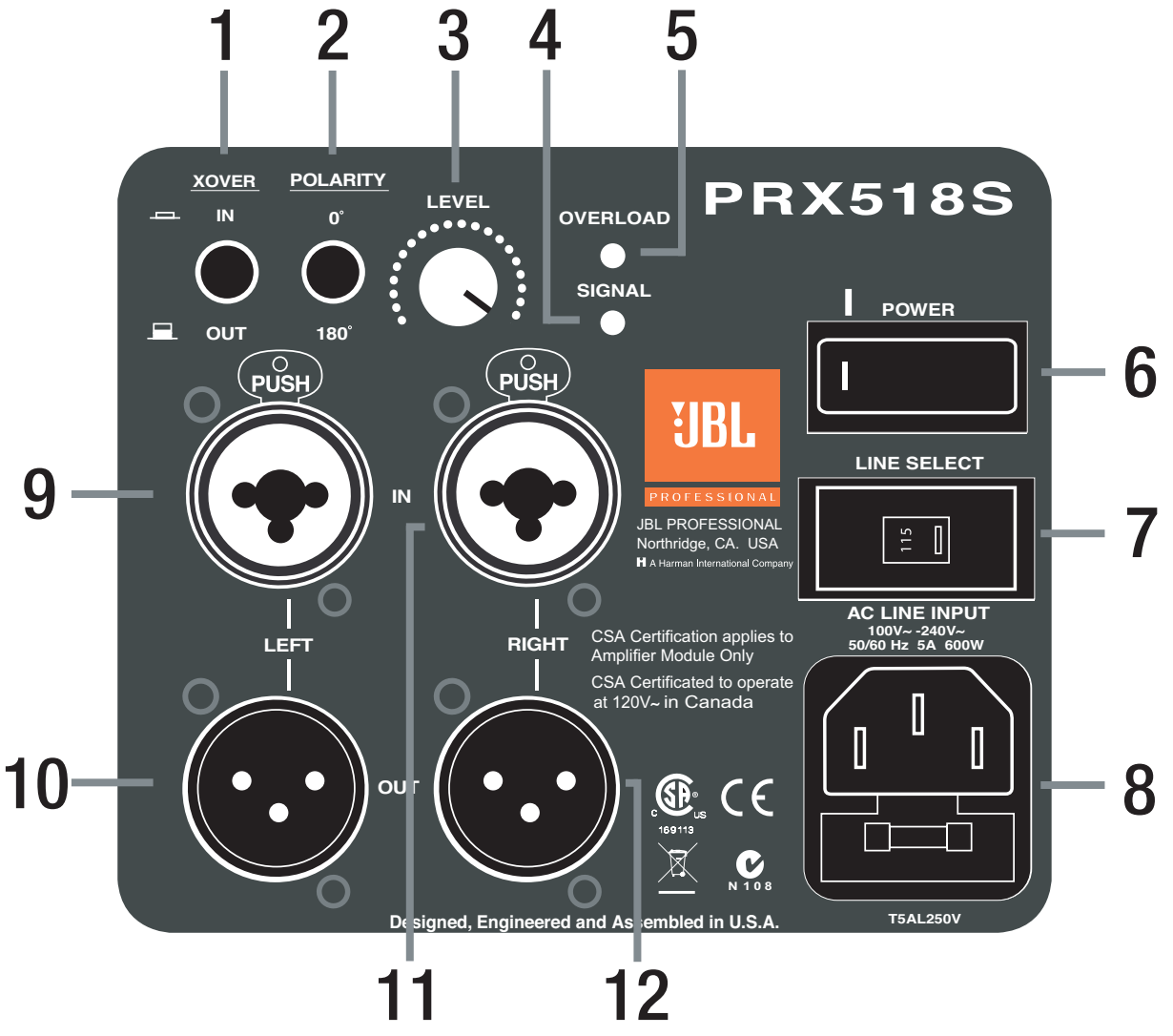
## Connectors

**9 - XLR:** Female balanced XLR and 1/4 inch phone jack combo balanced input connector.

**10 -XLR :** Male balanced XLR output connector. This connector provides a full-range signal which can be daisy chained to another speaker.

# SYSTEM SET UP - SUBWOOFER

## PRX500 Amplifier Input Configuration for PRX518S Subwoofer Model:




## Features

1 - **XOVER IN / OUT:** Pressing this button engages a high-pass filter at 110 Hz. This 4th order active filter allows a smooth transition between the subwoofer and a full range speaker connected to the output connector.

2 - **POLARITY INVERT:** Allows you to set the polarity of the subwoofer to either 0° (no change) or 180° (inverse polarity). The correct polarity setting will produce the best blend between the subwoofer and the full-range speaker and the strongest perceived bass response at the listening position. This is especially useful when the subwoofer is placed at a different distance from the listening position than the full-range speakers. If the bass response seems weak, try inverting the polarity.

**3 - LEVEL:** Sound level adjustment. The 12 o'clock position is a good starting point for most usages. Once the full-range system has been connected the level can be varied to match and deliver the desired balance (for details see Setting the Gain on page 21).

**6 - POWER SWITCH:** Turns the power on. Power "on" status is indicated with the illumination of the logo on the grille.

**7 - LINE SELECT:** Allows the user selection for different local voltage ratings.

**8 - AC LINE INPUT:** Standard IEC AC mains input connector.

## Indicators

**4 - SIGNAL:** Signal indicator. The green LED illuminates when a signal is present at the input connector.

**5 - OVERLOAD:** The red LED illuminates when the system overload protection is active. If the input signal is too strong or the "LEVEL" control set too high, the red LED will illuminate constantly. Illumination of the "OVERLOAD" LED can be avoided by reducing the input level or turning down the "LEVEL" control to the point at which the red LED occasionally flickers.

## Connectors

**9 & 11 - XLR:** 1/4 inch phone jack balanced input connector.
(see Reference section page 26 for information).

**10 & 12 - XLR:** Male balanced output connector. This connector provides a full-range or high-passed signal. dependent on the setting of the "XOVER" switch. In addition to connecting a full-range system to the output, it's also possible to daisy chain subwoofers together.

**Note 3:** A single subwoofer can be used with a stereo source. The integral differential circuits sums the low frequency information from the left and right channel to a mono signal, ready for reproduction by the subwoofer.

# SETTING THE INPUT SENSITIVITY

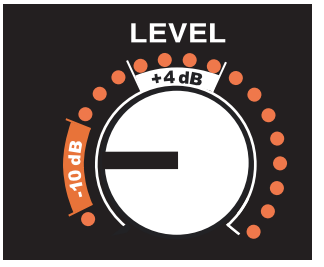
PRX500 series systems have been designed to allow the connection of a variety of sources. This provides a great deal of versatility, especially with the PRX512M and PRX515, as a microphone or instrument can be connected directly to the input. Low levels output from consumer products like MP3 and CD players, can also be accommodated.

There are two user selectable gain or input sensitivity ranges: Mic and Line. For the majority of applications, the system will be receiving a signal from a mixer, equalizer of other professional grade product. In this case “Line” should be selected and the “LEVEL” adjusted to the 12 o’clock position indicated by the +4 dB region. The “LEVEL”control can then be trimmed to optimize the performance of the system (see Setting The Gain).

LINE

When a microphone, instrument or other consumer product is connected to the system, first ensure that the “LEVEL” control is at its minimum, anti-clockwise, OFF position. Then select the “Mic” input sensitivity and slowly increase the level. If the “overload” LED illuminates you should back the level down again. If the “overload” LED illuminates and the “LEVEL” control is barely cracked open then you should try selecting the “LINE” input sensitivity range.

MIC

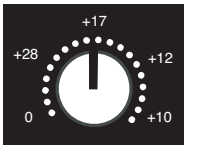



**WARNING: SELECTING THE “MIC” POSITION WITH THE LEVEL CONTROL IN ANY POSITION OTHER THAN THE “OFF” POSITION MAY RESULT IN EXTREMELY HIGH SPLs.**

The following levels should be used as a reference if you know the maximum output in dBu of the source connected to the system's input. For each position stated below there is an input signal level in dBu that is required to deliver absolute maximum output of the system.

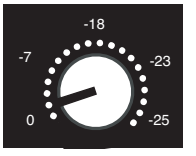
**LINE**

| **Level Position** | **Input Level Required To Deliver Maximum Output** |
|---|---|
| Full "on" | +10 dBu |
| 3 o'clock | +12 dBu |
| 12 o'clock | +17 dBu |
| 9 o'clock | +28 dBu |




**MIC**

| **Level Position** | **Input Level Required To Deliver Maximum Output** |
|---|---|
| Full "on" | -25 dBu |
| 3 o'clock | -23 dBu |
| 12 o'clock | -18 dBu |
| 9 o'clock | -7 dBu |




# SETTING THE GAIN

Only a properly setup system will guarantee maximum performance with a minimum of distortion and feedback. (This is as true for self powered systems as it is for passive systems). An easy to rule to follow is:" Everything should clip at once."

Following these simple steps will ensure you are getting the optimum performance out of your complete system.

1. Once the source has been connected to the input of your mixer, adjust the input sensitivity (or trim) so that the highest input levels are set to just before clip (or when the input LED just starts to flicker).

2. Position the channel fader for that input to 0 dB.

3. Position the Master output fader to 0 dB.

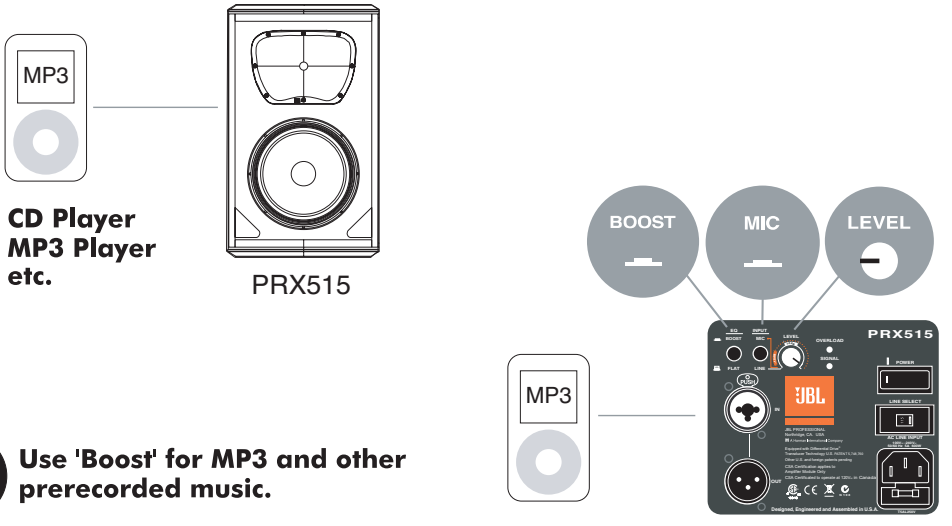
4. With the "Mic/Line" button set to "Line" (because the system is receiving a line level signal, or commonly called a +4 dB signal), set the "Level" control to the 12 o'clock position, and adjust until the "overload" LED just begins to flicker.

For in depth articles related to gain structure please refer the website where you can find the JBL Sound System Design Reference Manual; http://www.jblpro.com/pub/technote/ssdm_99.pdf

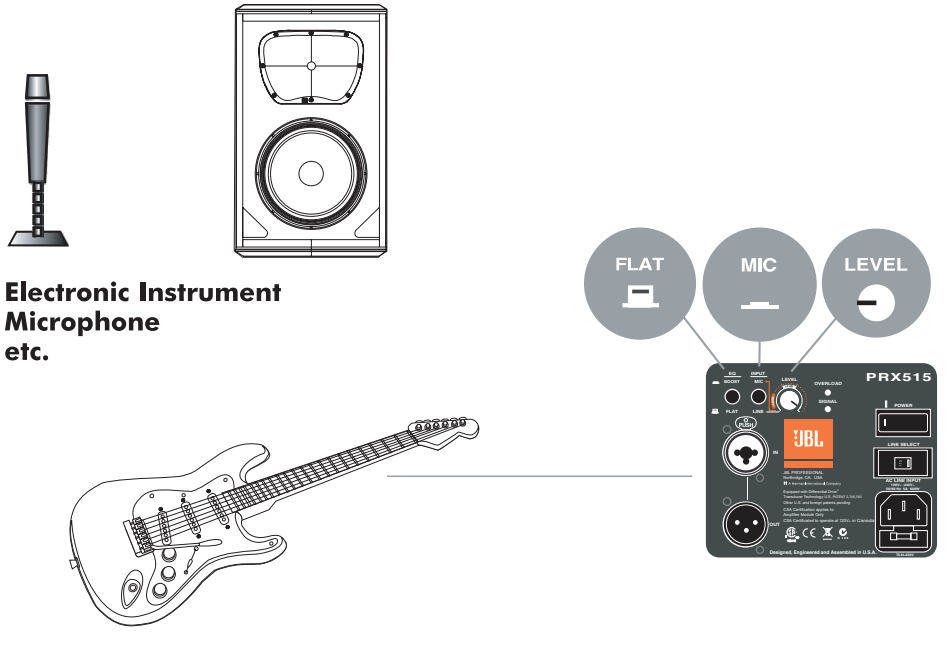
# APPLICATION EXAMPLES

## Basic Sound Reinforcement System

This is a very basic sound system. PRX500 series speakers allow the direct connection of sound sources, without the need for extra mixer or pre-amplifier. The XLR or 1/4 inch input jack provides versatility and cabling options and the mic/line input sensitivity selector switch optimizes the speaker gain for the input source. Additional speakers may be connected (daisy chained together) in mono mode.




BOOST **Use 'Boost' for MP3 and other prerecorded music.**

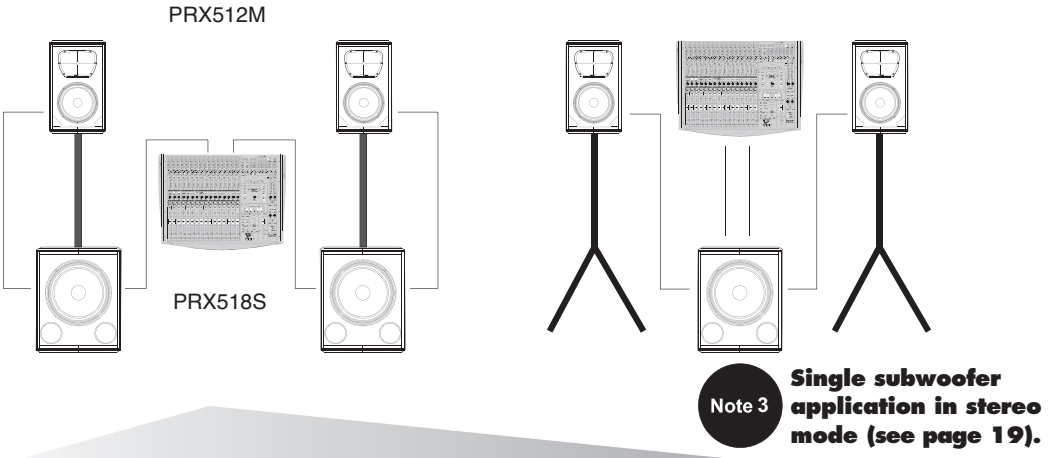



FLAT **Use 'Flat' for musical instrument or microphone.**

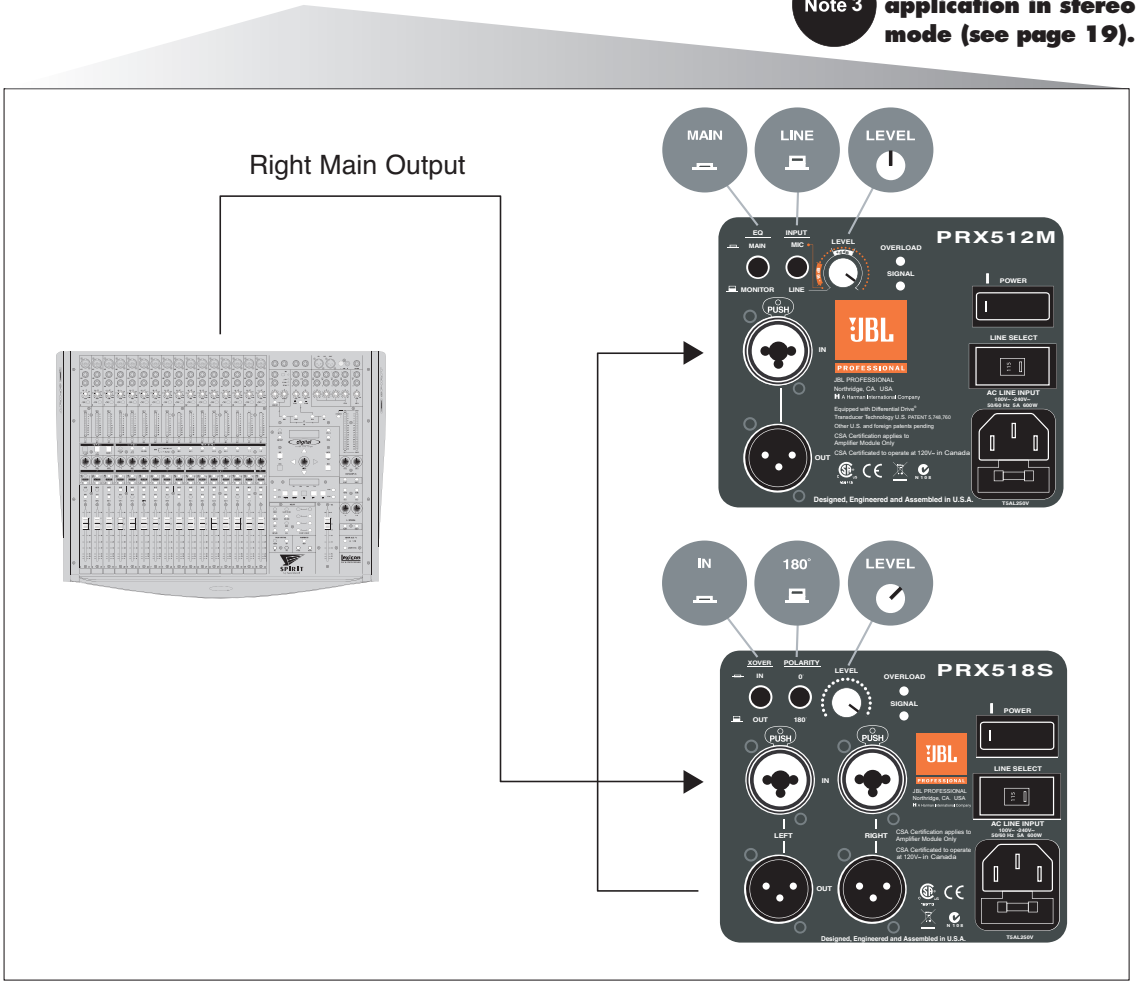
## Music Playback Reinforcement With Subwoofer (PRX512M Pole Mounted On A PRX518S)

This is a very powerful, but flexible combination. The subwoofer provides the extra low frequency extension and also serves as the base for the pole mount. The compact 12 inch satellite system, PRX512M is a perfect match to the subwoofer.

From the master outputs of your mixer route the wires to the subwoofer first and select the x-over in (high-pass) option. Route the cable form the subwoofer output connector to the top. Reduce the volume of subwoofers. Adjust the volume for the top to desired levels and match the subwoofer volume to achieve desired results. This will provide a well balanced LF performance for the system.

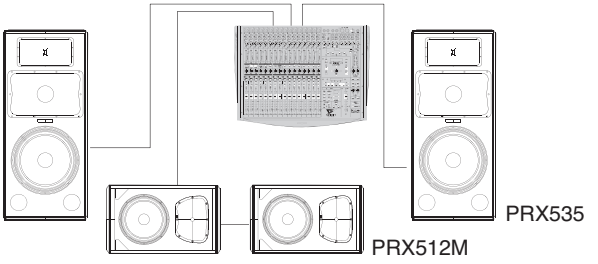


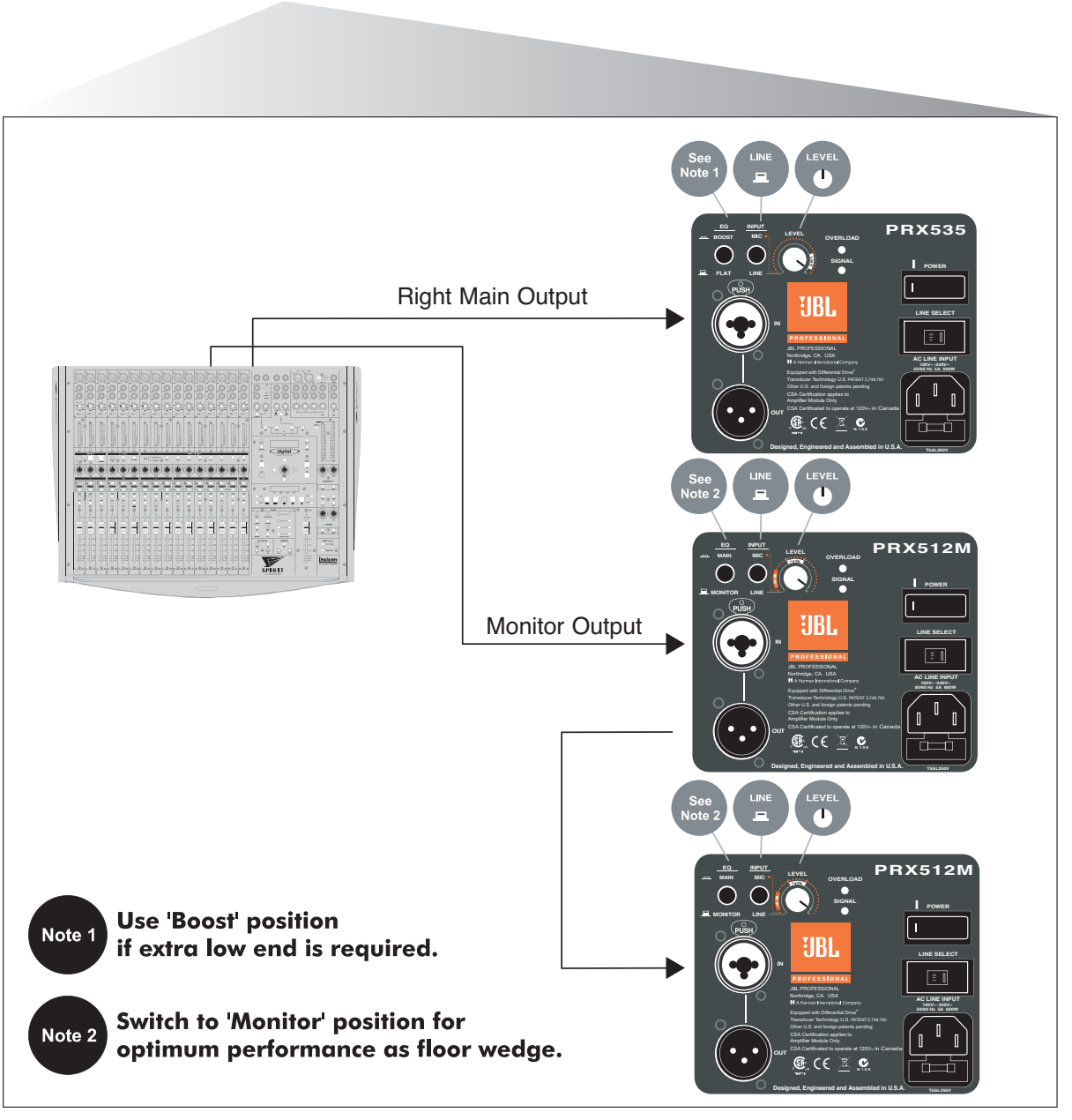

**Note 3** **Single subwoofer application in stereo mode (see page 19).**



## Live Performance Or Music Playback Reinforcement System With Stage Monitors (PRX535 And PRX512M)

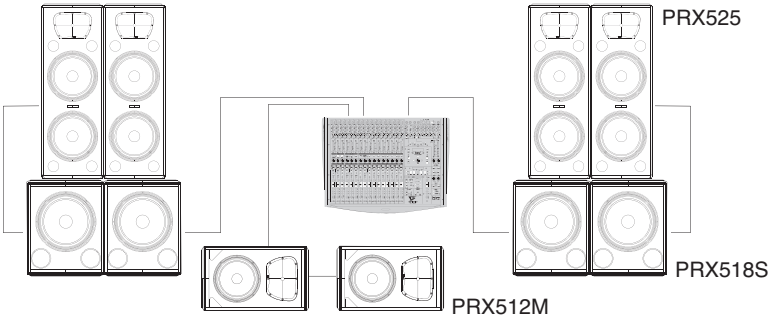
This is an ideal system when wide coverage and good directivity is required, specifically in highly reverberant rooms. The horn loaded PRX535 3-way system will control the propagation of the sound much better than a conventional 2-way system. The more directional or controlled the sound is the more independent the system becomes from the room acoustics present, resulting in a much clearer sound. The PRX535's full low end is an additional advantage when no subs are used. The PRX512M's are set to the "monitor" EQ setting.

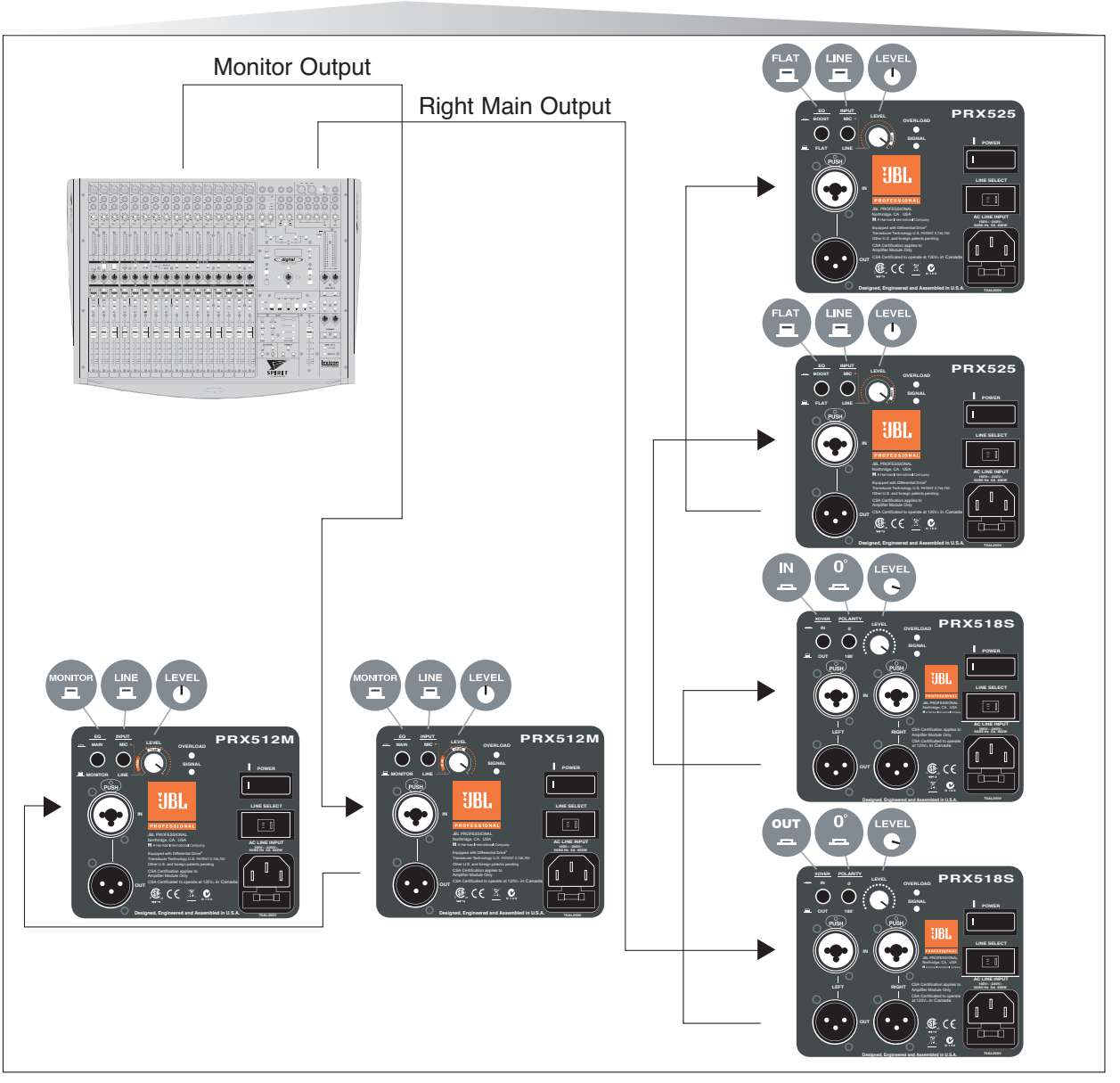


## Large Live Performance Or Music Playback Reinforcement System With Stage Monitor (4 x PRX518S, 4 x PRX525 And 2 x PRX512M)

For larger crowds in and outdoors, a flexible system like this will deliver excellent results. The dual 15 inch PRX525 delivers mighty bottom end and crisp highs. The combination of extra PRX518S subwoofers gives it a even more thunderous low end. The PRX525's can be arrayed as pair of two's each side for a wider coverage and some extra SPL (extremely useful in outdoor applications).



# REFERENCE

## Balanced vs. Unbalanced Lines

Your PRX500 series can accept either type of input. There are two basic types of audio system interconnections for audio signals: Balanced and Unbalanced.

## Balanced Lines

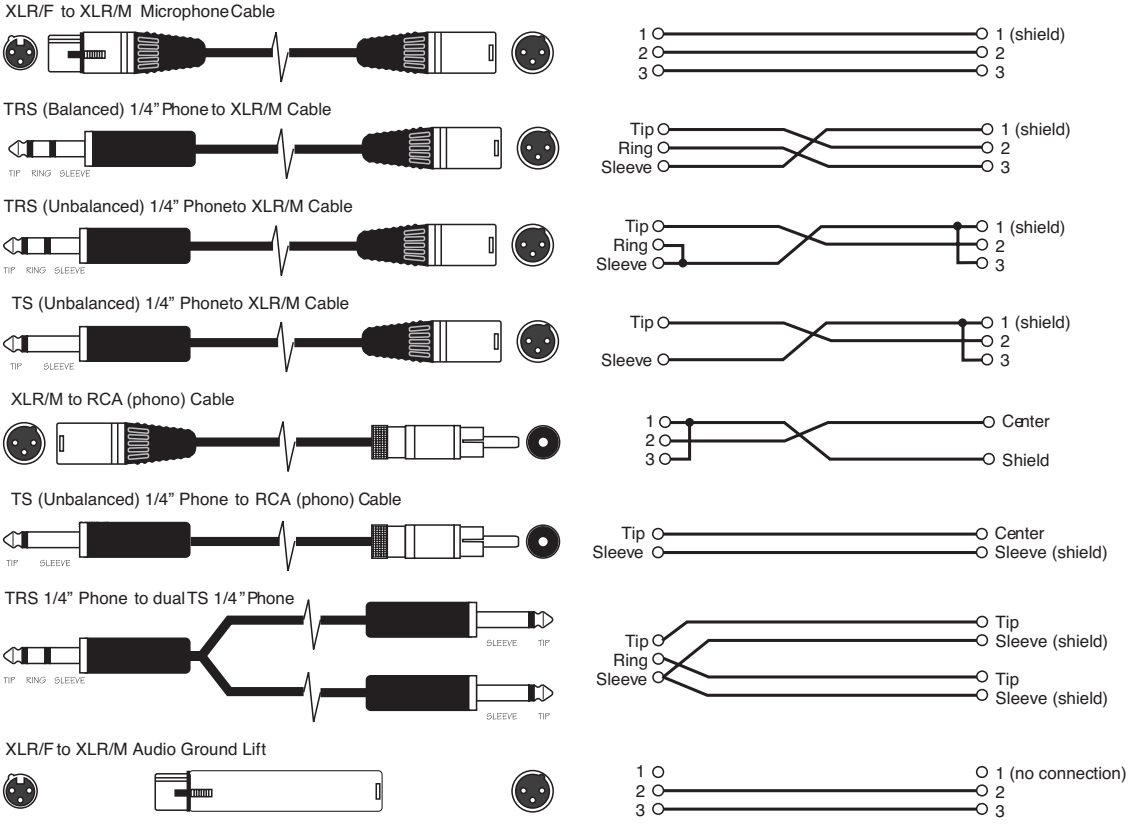
In audio, a balanced line is a three-conductor system in which the two signal wires carry an equal, but opposite voltage with respect to the ground wire. The ground wire acts only as a shield and does not carry any audio signal current. Outside interference (such as RFI - Radio Frequency Interference) is either shielded from the internal signal conductor, or if it gets into the cable is cancelled out by the opposite signals at the receiving end. Balanced connections are preferred for any longer cable runs.

## Unbalanced Lines

Unbalanced cable is a two-wire system where the shield (ground wire) acts as one of the current carrying signal conductors. The center conductor enclosed by the shield is commonly known as the “hot” conductor. Unbalanced audio cables do not reject noise as well as balanced lines. Unbalanced lines are typical in home hi-fi type systems and on the outputs of electronic musical instruments. These work well if the distance between the components is short, the signal level is relatively high and all of the electronics used in the system are plugged into the same AC service.

# CABLES AND CONNECTORS

| | |
|---|---|
| XLR/F to XLR/M Microphone Cable | The standard cable for interconnection of microphone and line level signal in professional audio systems.<br>• Microphone to mixer<br>• Microphone to PRX500 direct input<br>• Professional audio mixer to PRX500<br>• Daisy chaining PRX500 speakers |
| TRS (balanced) 1/4 inch phone jack to XLR/M | For connecting balanced devices with 1/4 inch phone and maybe used interchangeably. |
| TRS (unbalanced) 1/4 inch phone jack to XLR/M | For connections of instruments with unbalanced outputs to balanced XLR inputs. |
| TS (unbalanced) 1/4 inch phone jack to XLR/M | This cable is electrically identical to “TRS (unbalanced) 1/4 inch phone and maybe used interchangeably. |
| XLR/M to RCA (phono) cable | Connects consumer audio products and some DJ mixer outputs to professional audio equipment inputs |
| TRS 1/4 inch Phone jack to dual 1/4 inch Phone jack | Splits a stereo output into separate left/right signals. |
| TRS 1/4 inch Phone jack to dual 1/4 inch Phone jack | Change to a TRS mini-phone jack to connect to the output of a portable. MP3/CD – player and computer sound cards to a mixer or two PRX500 speakers for stereo performance. |
| XLR/F to XLR/M audio ground lift | Used to “telescope” a ground to eliminate hum caused by ground loops. Use only with balanced in – and outputs |



# TROUBLESHOOTING

| Symptom | Likely Cause | What To Do |
|---|---|---|
| No sound. | Speaker not connected to active AC power. | Verify that speaker is connected and that the circuit is on. Switch on power and verify that illuminated logo is on. |
| | Speaker power Cable is faulty or improperly Connected. | • Re-seat the power cable at both ends.<br>• Substitute a known-good power cable. |
| No sound, speaker is connected to working AC power but won't come on. | Blown fuse. | • Replace the fuse with the specified value.<br>• Take your speaker to a competent servicer. |
| | Signal source (mixer, instrument, etc.) is not sending. | |
| No sound, speaker comes on. | Faulty cables and connections | • Check VU meters on the source mixer<br>• Verify that the CD/MP3 is playing.<br>• Use headphones to verify that the instrument is actually sending an audio signal |
| | Faulty cables and connections | • Disconnect and re-seat signal cables.<br>• Replace suspected cable with a known-good cable |
| No sound with microphone connected directly to the MIC input. | Microphone requires phantom power | The PRX500 speakers do not supply phantom power, Switch to a dynamic microphone, use a battery in the microphone (if possible), use and external phantom power supply. |
| Signal Sounds distorted and very loud, OVERLOAD light is lit most of the time. | Excessive input signal, trying to exceed the capabilities of the speakers | • Reduce the output level of the source.<br>• Turn down the level controls on the speaker. |
| Signal sounds distorted even at moderate volumes, OVERLOAD light is not lit. | Mixer or other source is overdriven | Review the Owner's Manual for your system setup and adjust controls as needed.<br>• Input sensitivity (gain) |

| | | |
|---|---|---|
| Noise or hiss heard at output | Noisy Source Device | Disconnect the devices that are connected to your speaker one at a time. If the noise goes away, the problem is with the source or the connecting cable. |
| Hum or Buzz that increases or decreases when the mixer level controls are moved. | Improper A/C ground or faulty equipment connect to mixer input | Disconnect or mute channels one at a time to isolate the problem. Refer to the owner's manual of the faulty equipment for troubleshooting help. |
| | Faulty cable between source equipment and mixer | Substitute a known-good cable for the suspected faulty cable. |
| Hum or Buzz | Improper A/C grounding, ground loops | • "Telescope" the audio ground by using an XLR/F to XLR/M adapter on one end.<br>• Re-route audio cable away from AC power and lighting cables. |
| | Excessively long unbalanced cable run | • Use the balanced outputs (if available) of your mixer to drive your PRX speakers.<br>• Use a "DI" (direct injection) box to convert your unbalanced equipment output to a balanced output. |
| | Improper system gain structure | Review the Owner's Manual for your system setup and adjust controls as needed.<br>• Input sensitivity (gain) |
| Speakers feed back and howl whe the microphone volume is turned up | Microphones are pointed into the speakers | Move the speakers to they do not point the microphone's pickup pattern. |
| | Equalizer settings are incorrect | Locate the feedback frequency and reduce it using the mixer EQ or an external equalizer |
| | Excessive gain | Reduce the gain at the mixer and move the microphone closer to the sound source. |
| Too much low frequencies when playing back prerecorded music | Recorded music with excessive low frequencies | Switch the EQ switch to "flat" |

# CONTACT INFORMATION

### Mailing Address:
JBL Professional
8500 Balboa Blvd.
Northridge, CA 91329

### Shipping Address:
JBL Professional
8370 Balboa Blvd., Dock D
Northridge, CA 91329
(Do not return product to this address without first obtaining prior authorization from JBL)

### Customer Service:
Monday through Friday
8:00am -5:00pm
Pacific Coast Time In the U.S.A.
(800)8JBLPRO (800.852.5776)
www.jblproservice.com

### On The World Wide Web:
www.jblpro.com

### Professional Contacts, Outside The USA:
Contact the JBL Professional Distributor in your area. A complete list of JBL Professional international distributors is provided at our U.S.A. website -www.jblpro.com

### Product Registration:
Register your product online at www.jblpro.com/registration

# WARRANTY INFORMATION

The JBL Limited Warranty on professional loudspeaker products (except for enclosures)remains in effect for five years from the date of the first consumer purchase. JBL amplifiers are warranted for three years from the date of original purchase. Enclosures and all other JBL products are warranted for two years from the date of original purchase.

### Who Is Protected By This Warranty?

Your JBL Warranty protects the original owner and all subsequent owners so long as: A.)Your JBL product has been purchased in the Continental United States, Hawaii or Alaska.(This Warranty does not apply to JBL products purchased elsewhere except for purchases by military outlets. Other purchasers should contact the local JBL distributor for warranty information.); and B.)The original dated bill of sale is presented whenever warranty service is required.

### What Does The JBL Warranty Cover?

Except as specified below, your JBL Warranty covers all defects in material and workmanship. The following are not covered: Damage caused by accident, misuse, abuse, product modification or neglect; damage occurring during shipment; damage resulting from failure to follow instructions contained in your Instruction Manual; damage resulting from the performance of repairs by someone not authorized by JBL; claims based upon any misrepresentations by the seller; any JBL product on which the serial number has been defaced, modified or removed.

### Who Pays For What?

JBL will pay all labor and material expenses for all repairs covered by this warranty. Please be sure to save the original shipping cartons because a charge will be made if replacement cartons are requested. Payment of shipping charges is discussed in the next section of this warranty.

### How To Obtain Warranty Performance

If your JBL product ever needs service, write or telephone us at JBL Incorporated (Attn: Customer Service Department),8500 Balboa Boulevard, PO. Box 2200,Northridge,California 91329 (818/893-8411). We may direct you to an authorized JBL Service Agency or ask you to send your unit to the factory for repair. Either way, you'll need to present the original bill of sale to establish the date of purchase. Please do not ship your JBL product to the factory without prior authorization. If transportation of your JBL product presents any unusual difficulties, please advise us and we may make special arrangements with you. Otherwise, you are responsible for transporting your product for repair or arranging for its transportation and for payment of any initial shipping charges. However, we will pay the return shipping charges if repairs are covered by the warranty.

### Limitation Of Implied Warranties

ALL IMPLIED WARRANTIES,INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE LENGTH OF THIS WARRANTY.

### EXCLUSION OF CERTAIN DAMAGES

JBL'S LIABILITY IS LIMITED TO THE REPAIR OR REPLACEMENT, AT OUR OPTION, OF ANY DEFECTIVE PRODUCT AND SHALL NOT INCLUDE INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY, FROM STATE TO STATE.

# PRX500

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